

## **Achievement Possibilities Frontier – a methodology for setting nationally specific benchmarks to meet a universal target**

**A proposal for how to set universal targets in the Post-2015 Agenda, adapted to the different levels of development and resources of different countries**

**Sakiko Fukuda-Parr, The New School  
and Susan Randolph, University of Connecticut**

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### **Objective**

In proposing the setting of Sustainable Development Goals, the Rio+20 outcome document required that quantitative targets be set that are universally applicable but at the same time recognize that each country faces a specific set of constraints and opportunities<sup>1</sup>. This recognizes the major weakness of the MDGs that set one size fits all quantitative and time bound targets without taking account of differences in starting points and national capacities which in many cases were not realistic (Clemens, Kenny, & Moss, 2007). A one size fits all target is unfair to countries that start farther from the target and face larger resource and other capacity constraints (see for example Easterly, 2009; Fukuda-Parr, Greenstein, & Stewart, 2013). In other words, a one size fits all target penalizes the less developed countries. The targets set for the SDGs must therefore be contextualized to take into account different starting points or levels of development and available resources

How do we then set goals and targets that are universally applicable but take account of national realities and different levels of economic development? At first glance, the two criteria would seem mutually inconsistent. However, this is possible. We propose a methodology – the Achievement Possibilities Frontier (AFP) approach - that uses a universal standard but takes account of nationally specific constraints, thereby providing a solution to this challenge. This adapts a basic concept in economics – the production-possibilities frontier – but applies it in a way that can identify what ‘achievements’ are possible at a particular level of national

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<sup>1</sup> Paragraph 247 of the Rio+20 outcome document states: “We also underscore that sustainable development goals should be action oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries, while taking into account different national realities, capacities and levels of development and respecting national policies and priorities.”

income (measured by GDP per capita). This can then be used to set targets that are both ambitious, and realistic.

### **The Achievement Possibilities Frontier**

Simply put, the AFP methodology applies a universal standard – say 100% above \$1.25 income poverty threshold, or 100% not being stunted – and considers the historical experience in achieving this standard in different countries at different levels of income (approximated by GDP per capita). It is unrealistic to expect countries with very low per capita incomes to achieve this target immediately. It would, however, be realistic to demand countries to do as well as the highest level historically achieved by countries with the same per capita income level.

In other words, targets can be set with reference to what has been historically achievable in countries with similar levels of development. Adapting the Production Possibilities Frontier approach, the AFP methodology estimates the highest achievable level of a given goal at any given level of income. The AFP methodology uses historical data on achieved levels at different levels of income for any given variable (such as incidence of population below the poverty threshold, primary school completion, etc). It uses internationally comparable data from international series and per capita income levels measured in constant purchasing power parity dollars, PPP\$. The methodology is not overly complex and is readily accessible so that it can be replicated by national governments and civil society groups. It is therefore a usable tool for both setting nationally specific targets and for monitoring and accountability processes at the national level.

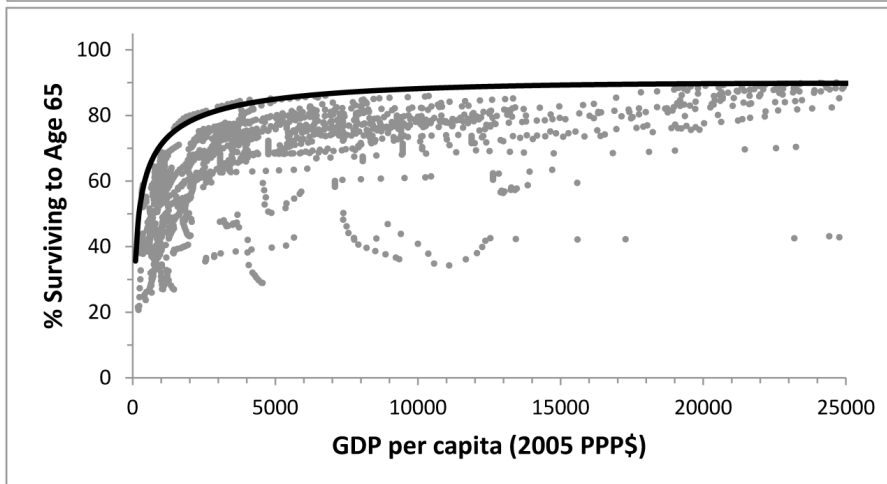
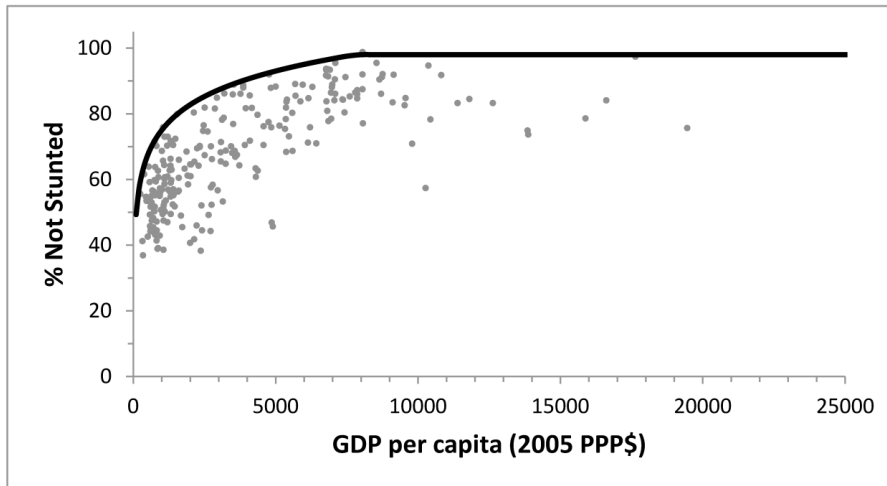
### **The estimation methodology**

This methodology was originally developed in the context of elaborating an index for measuring state performance in fulfilling social and economic rights that reflects the obligations of progressive realization and is fully elaborated a Technical Note for the SERF Index, <http://www.serfindex.org/wp-content/uploads/2011/02/Data/Technical-Note.pdf> as well as in journal publications co-authored by Fukuda-Parr, Lawson-Remer and Randolph (for example 2009, 2010). These publications explain both the core concept, basic methodology, and detail several refinements. The following is a brief summary of the methodology.

- First country level data for the indicator concerned are plotted against the country's per capita income at the time concerned. Ideally, all available observations over the past decade or more for all countries are used to construct the scatter plot.

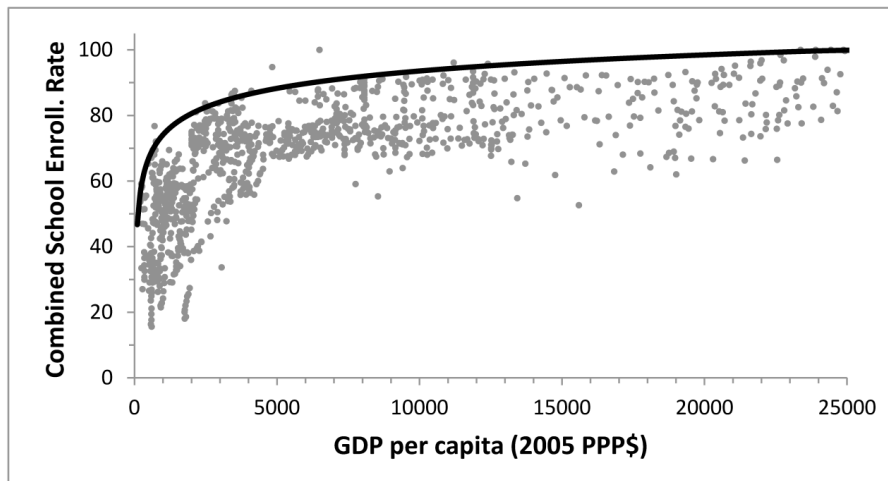
- The Achievement Possibility Frontier is then specified by using econometric techniques to fit a curve to the outer boundary of the scatter plot.<sup>2</sup> The Achievement Possibility Frontier provides an evidence based benchmark of what is feasible to achieve at any per capita income level.
- Realistic targets can then be specified in relation to the percentage of the benchmark level achieved at its current or projected per capita income level.

The graphics below show APFs estimated for 1) the Percentage of children that are well nourished (not stunted), 2) the age 65 survival rate, and 3) the combined school enrollment rate, respectively.




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<sup>2</sup> Several alternative econometric techniques can be used. A simple and straight forward approach is to use a curve fitting routine, such as that provided by SPSS, to fit the frontier to observations on the outer boundary of the frontier. More sophisticated techniques, such as econometric techniques to estimate stochastic production functions, could alternatively be used.



### Setting global goals and country specific targets for the SDGs

The SDGs could set a single global goal, combined with targets for different income levels. For example:

Global goal: end hunger and malnutrition'

Target example: end child malnutrition measured by the child stunting rate.<sup>3</sup>

Nationally specific benchmark targets for performance monitoring could then be set using the APF for the percentage of children that are not stunted, in accordance with different levels of GDP.

The table below shows the benchmarks for countries with per capita GDP levels of \$500, \$1000, \$2000, \$4000, and \$6000.

Per capita GDP (2005 PPP\$)	% Not Stunted
\$500	67.3
\$1000	75.0
\$2000	82.8
\$4000	90.5
\$6000	95.1

The APF indicates that excess child stunting can be eliminated at a per capita income level of \$7806 and accordingly countries with per capita income levels greater than \$7806 (2005 PPP\$), would be held to a benchmark of 98% not stunted—the percentage of children under 5 in a well nourished population whose height for weight would be more than 2 standard deviations below the mean.

<sup>3</sup> The stunting rate is defined by the WHO as the percentage of children under age 5 whose height for age is more than two standard deviations below the median for the international reference population ages 0-59 months. Roughly 2% of a well nourished population is expected to have a height for age that is more than two standard deviations below the median.

The above is an example to illustrate how the methodology might be used to set global goals with country specific benchmark targets that take account of national differences.

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